

Listing of Claims

The following listing of claims replaces all prior versions.

- 1 1. (Original) A light-emitting device, comprising:
2 an active region configured to generate light in response to injected charge;
3 and
4 a current confinement structure located to direct charge into the active region
5 and including a strain compensating layer adjacent an oxide-forming layer.

- 1 2. (Original) The light-emitting device of claim 1, in which the current
2 confinement structure comprises an additional strain compensating layer adjacent the
3 oxide-forming layer, where the oxide-forming layer is sandwiched between the strain
4 compensating layers.

- 1 3. (Original) The light-emitting device of claim 1, in which the strain
2 compensating layer comprises gallium, indium and phosphorus.

- 1 4. (Original) The light-emitting device of claim 1, in which the oxide-
2 forming layer comprises aluminum, gallium and arsenic.

- 1 5. (Original) The light-emitting device of claim 1, in which the strain
2 compensating layer consists essentially of $Ga_{1-x}In_xP$, where $x \leq 0.5$.

- 1 6. (Original) The light-emitting device of claim 1, in which the oxide-
2 forming layer consists essentially of $Al_xGa_{1-x}As$, where $x \geq 0.96$.

1 7. (Original) The light-emitting device of claim 1, in which:
2 the strain compensating layer consists essentially of gallium indium phosphide
3 GaInP; and
4 the oxide-forming layer consists essentially of aluminum gallium arsenide
5 AlGaAs.

1 8. (Original) The light-emitting device of claim 7, in which:
2 the strain compensating layer consists essentially of gallium indium phosphide
3 Ga_{1-x}In_xP in which $x \leq 0.5$; and
4 the oxide-forming layer essentially of aluminum gallium arsenide Al_xGa_{1-x}As
5 in which $x \geq 0.96$.

1 9. (Original) The light-emitting device of claim 1, structured to generate
2 light having a wavelength between 620 nm and 1650 nm.

1 10. (Withdrawn) A method of making a strain compensating structure,
2 the method comprising:
3 providing a substrate;
4 forming over the substrate a strain compensating layer of a first semiconductor
5 material;
6 forming an oxide-forming layer of a second semiconductor material
7 juxtaposed with the strain compensating layer to form the strain compensating
8 structure; and
9 oxidizing at least part of the oxide-forming layer.
10 structure; and
11 oxidizing at least part of the oxide-forming layer.

1 11. (Withdrawn) The method of claim 10, in which:
2 the first semiconductor material comprises indium, gallium and phosphorus;
3 and
4 the second semiconductor material comprises aluminum, gallium and arsenide.

1 12. (Withdrawn) The method of claim 11, further comprising:
 2 forming the strain compensating layer using $\text{Ga}_{1-x}\text{In}_x\text{P}$, where $x \leq 0.5$; and
 3 forming the oxide layer using $\text{Al}_x\text{Ga}_{1-x}\text{As}$, where $x \geq .96$.

1 13. (Withdrawn) A method for generating light, the method comprising:
 2 forming an optical cavity;
 3 locating an active region in the optical cavity, the active region configured to
 4 generate light in response to injected current;
 5 forming a current confinement structure located to direct current into the active
 6 region, including:
 7 forming a strain compensating layer of a first semiconductor material
 8 including gallium (Ga), indium (In) and phosphorus (P);
 9 forming an oxide-forming layer of a second semiconductor material
 10 including aluminum (Al) gallium (Ga) and arsenic (As);
 11 oxidizing at least part of the oxide-forming layer; and
 12 injecting current into the active region using the current confinement
 13 structure.

1 14. (Withdrawn) The method of claim 13, in which the active region is
 2 configured to generate light having a wavelength between 620 nm and 1650 nm.

1 15. (Withdrawn) A strain compensating structure, comprising:
 2 a strain compensating layer of a first semiconductor material including gallium
 3 (Ga), indium (In) and phosphorus (P); and
 4 an oxide-forming layer of a second semiconductor material including
 5 aluminum (Al) gallium (Ga) and arsenic (As) juxtaposed with the strain compensating
 6 layer.

1 16. (Withdrawn) The strain compensating structure of claim 15, in which
 2 the first semiconductor material consists essentially of gallium indium phosphide
 3 $\text{Ga}_{1-x}\text{In}_x\text{P}$ in which $x \leq 0.5$.

1 17. (Withdrawn) The strain compensating structure of claim 15, in which
2 the second semiconductor material consists essentially of aluminum gallium arsenide
3 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ in which $x \geq 0.96$.

1 18. (Withdrawn) The strain compensating structure of claim 15, in which:
2 the first semiconductor material consists essentially of gallium indium
3 phosphide (GaInP); and
4 the second semiconductor material consists essentially of aluminum gallium
5 arsenide (AlGaAs).

1 19. (Withdrawn) The strain compensating structure of claim 18, in which:
2 the first semiconductor material consists essentially of gallium indium
3 phosphide $\text{Ga}_{1-x}\text{In}_x\text{P}$ in which $x \leq 0.5$; and
4 the second semiconductor material essentially of aluminum gallium arsenide
5 $\text{Al}_x\text{Ga}_{1-x}\text{As}$ in which $x \geq 0.96$.